

Statewide Shortline Railroad Improvement Plan

Technical Memorandum

November 2, 2009



• **DRPT** •

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A. Introduction

This Technical Memorandum details the results and recommendations arising from a review of the Virginia Shortline Railroads focused on the preservation of the railroads and the development the railroads to continue to provide safe and efficient service to businesses in the Commonwealth. The field data for this technical memorandum was collected in the summer of 2008. Additional input was requested and received from the shortlines individually and through the Virginia Railroad Association.

Short lines have become a critical component of the rail industry and produce benefits to shippers and local communities trying to support economic development to many industries. Short lines act as the serving railroads for approximately one-third of all rail shipments originating or terminating in Virginia. It is important for the short lines to adequately handle 286,000 pound railcars and container shipments in order to interface with the Class I railroads.

In Virginia, the short lines are comprised of eight railroads authorized by the U.S. Surface Transportation Board with a total of 641 route miles and two terminal switching railroads; the Deep Water Terminal Railroad with a total of four miles of track, and the Norfolk & Portsmouth Belt Line with 36 miles of track. Short lines often serve as the first or last link in the business to business delivery by providing the intensive switching operations that are not profitable for the Class I railroads.

Today's short lines were built many decades ago using the standards of the time. The older standards used lighter rails and less ballast or simply cinders. Many of the lines were previously owned by Class I railroads who divested themselves of the lines as a consequence of low traffic volumes or declining revenues. Those shortline railroads experienced deferred maintenance in the years prior to being divested.

Shortline railroads have, in many cases, been able to increase or maintain the traffic volume, but do not have the financial strength necessary to invest in track and infrastructure upgrades beyond the basic maintenance required to continue operations. The combination of lack of programmed maintenance and the trend towards the use of 286,000 pound railcars (nearly a standard on today's railroads) have created a need to invest in the infrastructure above the level that Shortlines can afford.

The 286,000 pound railcar is the new standard rail car, replacing the 263,000 pound railcar, for transporting heavy bulk materials, like coal, grain and lumber. Studies have shown that the 286,000 pound railcars can operate on rail as low as 90 pounds per yard if all the other track components are in good shape with tight rail joints. Given common soil conditions found in the State of Virginia, it is more cost effective in many cases to install a heavier weight rail that is stronger and resists bending to protect the investment to the rail infrastructure.

All eight of Virginia's shortlines are classified by the Federal Railroad Administration (FRA) as Class III railroads (line-haul carriers with annual revenues less than \$25 million). The FRA includes shortlines and terminal switching railroads under the heading of 'local' railroads.. A brief description of the existing shortline railroads is presented in the following sections.

B. Existing Shortline Railroads in the Commonwealth

The following narratives describe the shortline railroads operating in Virginia. A map of these shortlines is presented in Figure 1 which follows the narratives. Also following the narratives is Table 1 that presents a summary of total carloads by railroad and the types of commodities carried by the railroads.

Bay Coast Railroad (BCR) – operates the former Eastern Shore Railroad line. Shortline railroad operations on the eastern shore began on October 1, 1981 over the former Virginia and Maryland line from Pocomoke City, Maryland, to Norfolk, Virginia. This north-south route on the Delmarva Peninsula was originally established in 1884 and is still the most direct route between the Northeast and Norfolk, Virginia. The Bay Coast Railroad consists of 70 miles of FRA Class II mainline and a 26 mile car float operation from Cape Charles to Norfolk, Virginia. 66 miles of the BCR are located on the eastern shore while the remaining 4 are located on the mainland in Norfolk.

The Bay Coast Railroad uses a rail ferry service to span the 26 mile water route across the Chesapeake Bay between Cape Charles and Norfolk, Virginia. Tug boats are contracted to move the two barges (car floats) of 25 and 15 car capacity. This float operation is one of only two remaining in the Eastern United States and is the longest water route in the country. This car operation has been in service since April 1885.

The Bay Coast Railroad interchanges with the Norfolk Southern Railway at both Norfolk, Virginia and Pocomoke City, Maryland with yards in Cape Charles and Little Creek, Virginia.



Gerald M. Moore asphalt and concrete facility in Nassawadox, VA

The Gerald M. Moore facility is the largest stone customer on the BCR.

Buckingham Branch Railroad (BB) – is a family owned FRA Class III short-line railroad operating over 217 miles of historic and strategic trackage in Central Virginia. The Bryant family owns and operates a 17.3 mile long run between Dillwyn and Bremo, Virginia and is also known as the Buckingham Division. The Buckingham Branch Railroad also leases and operates a 200 mile long line of railroad from Richmond to Clifton Forge, Virginia. This run is better known as the Richmond Alleghany Division, and is further divided into the North Mountain, Washington & Piedmont Subdivisions. The company's headquarters are in Dillwyn, Virginia in the former Chesapeake and Ohio Railroad (C&O) station, a historic landmark in the community.

The Buckingham Branch Railroad is primarily a freight railroad and receives freight cars from CSX Transportation at Strathmore, Doswell and Clifton Forge and Norfolk Southern at Charlottesville, Orange and Waynesboro. The Shenandoah Valley Railroad also provides freight cars at Staunton.

Outbound freight on the Buckingham Division consists mainly of wood chips, lumber, crushed slate and kyanite ore. Inbound freight includes fertilizer and road salt.

The Richmond Alleghany Division carries both inbound and outbound products also including; plastic pellets for film production, lumber & gypsum board for local building suppliers, coal for a university steam plant and newsprint for Richmond Newspapers.



Amtrak's Cardinal at Charlottesville, VA

Virginia Southern Division is a 56 mile line that runs from Burkeville, Virginia to Clarksville, North Carolina. The portion of the line between Clarksville, Virginia and Oxford, North Carolina has not been in use for more than a decade and is overgrown with vegetation. Virginia Southern Division carries both inbound and outbound products also including; coal and wood chips. The customers include Stone Paper and Mecklenburg Co-Gen.

In addition to the freight traffic carried by the BB, the railroad also hosts a 130 mile ling route segment of Amtrak's Cardinal train. The BB is the only shortline in Virginia that hosts Amtrak service.

Chesapeake and Albemarle Railroad (CA) – is a FRA Class III short-line railroad operated by the North Carolina and Virginia Railroad and is owned by RailAmerica. The Chesapeake and Albemarle Railroad started operations on April 2, 1990. They operate on 82 miles of track from Chesapeake, Virginia to Edenton, North Carolina. Chesapeake and Albemarle Railroad is headquartered in Ahoskie, North Carolina and interchanges with both Norfolk Southern Railway at Chesapeake, Virginia and CSX Transportation at Portsmouth, Virginia (via Norfolk & Portsmouth Belt Line). The railroad was part of the now defunct Norfolk and Southern Railroad (not to be confused with the Class 1 Railroad Norfolk Southern), which continued south crossing the Albemarle Sound and onto Mackeys Ferry and Plymouth.

The North Carolina and Virginia Railroad averaged 6,329 carloads in 2007 and current customers include; Albemarle Builders, Albemarle Distribution, Royster Clark, Central Grain, Universal Forest Products, Currituck Grain, Hobbs Implement, Lebanon Agricorp, C.A. Perry & Sons, Commercial Ready-Mix, Coastal Ready-Mix, Roberts Bros., Southern States, United Piece & Die, IMC, Vulcan Materials and F.P. Wood & Son.

Chesapeake Western Railroad (CHW) – was an intrastate railroad in west-central Virginia. It extended from Elkton on the South Fork of the Shenandoah River in Rockingham County to Stokesville in Augusta County at the foot of the Allegheny Mountains. At Elkton, it interchanged with the Norfolk and Western Railway. At Harrisonburg it interchanged with the Southern Railway.

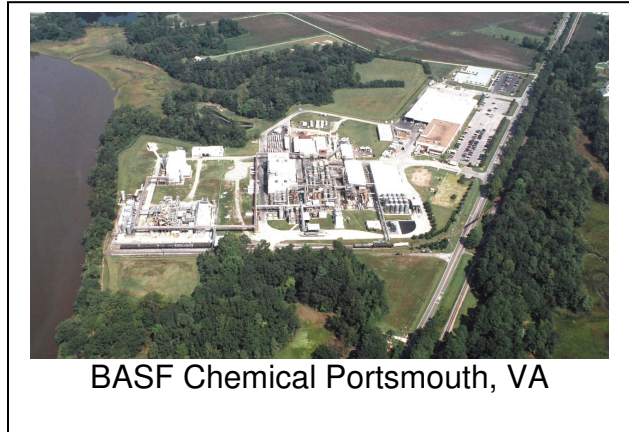
Construction began in 1885 in Harrisonburg by the Chesapeake and Western Railroad, and proceeds both east and west. To the west, Bridgewater was the original terminus, but the line was extended to Stokesville by 1901 by the newly reorganized Chesapeake Western Railway. In 1933 the line was cut back to Bridgewater, and later to Dayton. To the east the line reached Elkton by 1896, where the line's main yard and shops were constructed.

In 1938 the line was bought by the line's general manager with the assistance of Norfolk and Western, which assumed direct control in 1954. In 1943, the Baltimore and Ohio's Valley Road of the Virginia line, which ran between Harrisonburg and Lexington was purchased by the CHW, though the portion from Staunton to Lexington was promptly dismantled. Later, a portion of the same line to the north of Harrisonburg as far as Mt. Jackson was added.

The line continues to operate today as the Chesapeake Western Branch of Norfolk Southern a FRA Class III short-line. A portion of the line south of Harrisonburg to Pleasant Valley is owned and operated by the Shenandoah Valley Railroad (SV).

Commonwealth Railway, Inc. (CWRV)

– is a FRA Class III short-line railroad operating 16.5 miles of track of the former Norfolk, Franklin and Danville Railway line from Suffolk, to Portsmouth, Virginia. Its main office is in the Wilroy area of Suffolk, Virginia. Commonwealth Railway is owned by Rail Link Inc. CWRV interchanges with Norfolk Southern and CSX in Suffolk, Virginia.



BASF Chemical Portsmouth, VA

The Commonwealth Railway services several large shippers including the BASF Chemical plant and the Maersk container terminal in the Portsmouth. Planned service increases include the Craney Island Marine Terminal to be built by the Virginia Port Authority.

Deepwater Terminal Railroad (DWT) - The Port of Richmond Deepwater Terminal Railroad (DWT) owns approximately four miles of track serving the Port of Richmond on the James River. DWT is a terminal and switching railroad served directly by CSX Transportation and by Norfolk Southern via switching rights. DWT is not recognized by the FRA as a shortline railroad but it is recognized by Virginia as a non-Class I railroad facility. DWT extends south between the James River and I-95 within Richmond City limits and primarily serves the Port's imports and exports, and several distribution customers on the line.

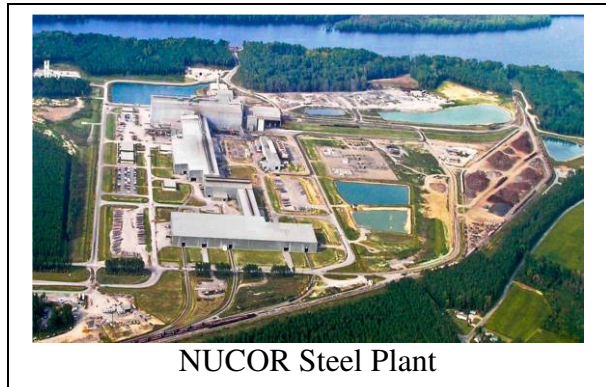
Norfolk and Portsmouth Belt Line (NPBL) – is a FRA Class III belt line railroad that has been operating in Norfolk, Portsmouth and Chesapeake, Virginia since 1896. The NPBL is owned fifty-seven percent by Norfolk Southern and forty-three percent by CSX Transportation. The Belt Line interchanges with Chesapeake and Albemarle Railroad, CSX Transportation, Bay Coast Railroad (formerly the Eastern Shore Railroad) and Norfolk Southern. The Belt Line is a terminal switching company that owns 36 miles of track, (plus 27 miles of trackage rights) and links commerce around the deepwater port from Norfolk International Terminal (NIT) to Portsmouth Marine Terminal and including the Southern Branch of the Elizabeth River.



Locomotives and Intermodal flat cars

North Carolina and Virginia Railroad (NCVA) – is a FRA Class III short-line railroad. The NCVA started November 1, 1987 on a former Seaboard Coast Line Railroad from Boykins, Virginia to Tunis in Cofield, North Carolina. The North Carolina and Virginia Railroad is headquartered in Ahoskie, North Carolina and interchanges with CSX Transportation in Boykins, Virginia.

The North Carolina and Virginia Railroad's current customers include; Ahoskie Fertilizer, Colerain Peanut, Southern States, Georgia-Pacific, Golden Peanut Co., Kerr Plastic, Perdue Farms, Resinall Corp., Rich Square Cotton Gin, Royster Clark and Severn Peanut. NUCOR Steel is the NCVA's largest shipper. The North Carolina and Virginia is owned by RailAmerica.



NUCOR Steel Plant

Shenandoah Valley Railroad (SV) – is a privately owned intrastate FRA Class III short-line railroad extending northward from Staunton, Virginia in Augusta County and Rockingham County. The line was originally built by the Baltimore and Ohio Railroad and later purchased in 1942 by the Chesapeake Western Railway. The new short-line was formed in 1993 by several major shippers, and adopted the old historic name which was not in use. Shenandoah Valley Railroad is operated under contract. The Bay Coast Railroad (BCR) was the contract operator between April 2003 and August 2006. As of September 1, 2006 the Durbin and Greenbriar Valley Railroad (DGVR) became the contract operator. The railroad interchanges with the Buckingham Branch Railroad (BB) in Staunton, along with Norfolk Southern in Pleasant Valley, Virginia.

Winchester and Western Railroad Co. (WW) – is a 54 mile FRA Class III short-line railroad that operates between Gore and Winchester, Virginia, and from Winchester, through the Eastern Panhandle of West Virginia, to Hagerstown, Maryland. The Winchester and Western is exclusively a freight line with connections to CSX Transportation and Norfolk Southern.

The Winchester and Western Railroad has a partnership with H.H. Omps Trucking to transport bulk materials from Omps' facilities in Winchester, VA. and serves several quarries on the line.



Winchester & Western – Martinsburg, VA

Existing Class III Shortline RR System

Bay Coast Railway (BCR)
Buckingham Branch (BB)
Chesapeake and Albemarle (CA)
Chesapeake and Western (CHW)
Commonwealth Railway (CWRV)
Deepwater Terminal Railroad (DWT)
Norfolk and Portsmouth Beltline (NPBL)
North Carolina and Virginia (NCVA)
Shenandoah Valley (SV)
Winchester and Western (WW)

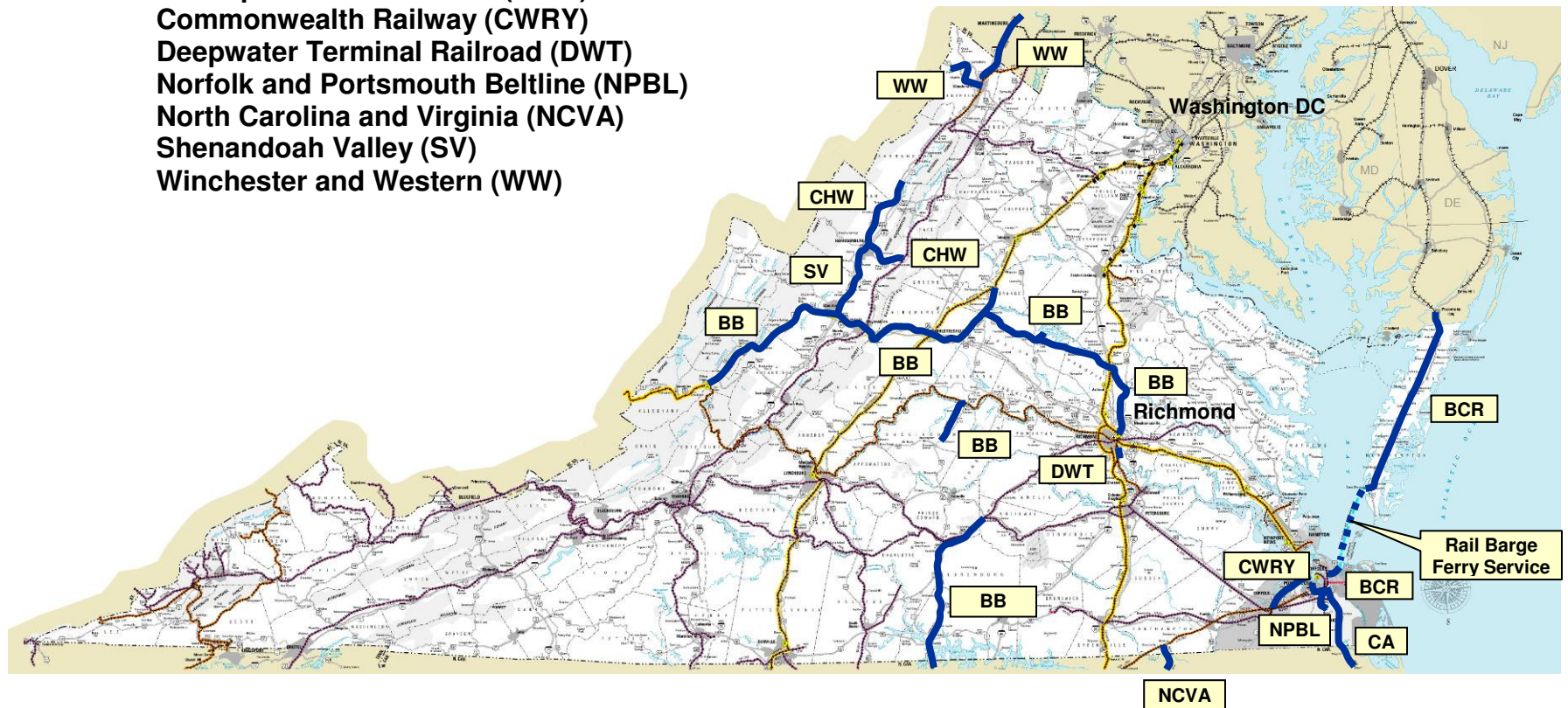


Figure 1 - Shortline Railroad System

Table 1 - Shortline Railroads – Summary of Annual Carloads (2008)

Commodity	Bay Coast Railroad	Buckingham Branch Railroad	Chesapeake & Albemarle Railroad	Chesapeake Western Railroad	Commonwealth Railway, Inc.	Norfolk & Portsmouth Belt Line	North Carolina & Virginia Railroad	Shenandoah Valley Railroad	Winchester & Western Railroad Co.
Base Metals						X	X		X
Milled Grain Products	271	X	X	X		X	X	X	
Gravel and Crushed Stone	911	X	X			X			X
Plastic and Rubber	61	X				X	X		X
Wood Products	34	X	X				X	X	
Waste and Scrap						X	X	X	
Misc. Manufactured Products			X			X			
Nonmetallic Minerals		X				X			
Paper	179	X					X		X
Basic Chemicals	66	X			X	X	X		
Transportation Equipment						X			
Metallic Ore & Concentrates		X							
Machinery	3					X	X		
Cargo – Not Otherwise Specified	1502	X	X		X	X	X	X	X
TOTALS	3,027	546,766	6,329	N/A	839*	21,470	23,974	1,305	6,277

* Does not include containerized cargo from the new APM Terminal in Portsmouth which opened in late 2008 and will generate many new carloads in the future (as will the future VPA Craney Island Marine Terminal to open in 2017).

C. Benchmark Rail Grant Programs with Other State's Programs

Other State-funded Short line railroad grant programs were examined to use as a benchmark for Virginia's program. The other state-funded programs mainly consist of grants and low interest loans to public and private entities. The programs are usually managed by the states' departments of transportation and their economic development commissions. Many of the programs require matching funds be provided, some states also require job creation or retention as a precursor to funding. Short line rail funding is delivered through many different venues including, transportation infrastructure improvement, industrial development, highway safety, congestion relief, and homeland security.

The programs are typically used to fund maintenance, rehabilitation, and construction of rail lines and facilities. Some states also make funds available to purchase existing or abandoned rail lines to preserve them for current or future use. There are also programs for safety improvements (grade crossings) and congestion relief. A projects value to the public is sometimes expressed in terms of how many truckloads of freight are removed from the highway system by improvements to the rail system.

Short line railroads provide a vital link between local industrial sidings and the national rail system. They provide a low cost transportation alternative for industries in outlying areas to access the national system. Without the short lines these industries would have to move to more centralized urban areas or rely on trucking which is more expensive, increases congestion and causes more pollution. Industries such as farming and mining are, by their nature, located "off the beaten path". Shortlines assist industries and local economies through a cost effective rail transportation link to the global markets and economies.

Funding for short line railroads has also come from non-traditional sources. New York New Jersey Rail LLC received over \$700,000 from the Department of Homeland Security under their Port Security Grant Program for security upgrades to their New York cross harbor rail float operations. These operations are similar to those of the Bay Coast Railway.

The following tables summarize the programs of the other state-funded programs surveyed.

New Jersey

Program

New Jersey Rail
Freight Assistance
Program

Funding

\$23.6 million for 17
projects

Terms

Acquisition Assistance: Funds for the acquisition of a railroad line or property for rail freight services. Limited to properties identified as part of the State Core Rail System.

Rehabilitation Assistance and Facility Construction Assistance: Requires contributions to be made by the beneficiaries of the improvement project, 90% state share with 10% match. Assistance will be made available when the public benefits derived exceed the costs incurred for the specific project.

North Carolina

Program

Congestion Relief
and Intermodal
Transportation

Funding

\$86 million for fiscal
year 2009- 2010

Terms

Maximum amount of grant for any one region is 33% of fund.

Short Line Railroad
Grants

\$58 million/12 yrs

Grants shall not exceed 50% of the non-federal share and must be matched by equal or greater funding from the applicant. Total grants may not exceed \$5 million per fiscal year.

Rail Access to State
Ports

\$80 million/12 yrs

Grants shall not exceed 50% of the non-federal share and must be matched by equal or greater funding from the applicant. Total grants may not exceed \$15 million per fiscal year.

Ohio

Program

Freight
Development/Rail
Spur Program

Funding

Terms

Grant funding generally limited to projects where significant job creation or retention is involved (25 or more jobs). Loan financing available otherwise. Loan package is a 5 year term; interest rate is 2/3 of prime. Collateral or letter of credit required.

Railroad
Rehabilitation
Program

Provides assistance to public or private entities for the rehabilitation of rail lines to improve safety or efficiency.

Rail Line Acquisition
Program

Provides assistance for the acquisition of rail lines to prevent the cessation of service or to preserve the line or right of way for future rail development. Assistance to acquire a line if the acquisition can enhance the lines viability.

Hazard Elimination
and Surface
Transportation
Program

\$15 million

Funds highway-railroad grade crossing safety improvements or corrective activity designed to alleviate highway-railroad safety problems.

Wisconsin

Program

Freight Railroad
Preservation
Program

Funding

2007-2009 Budget
\$ 22 Million

Terms

Grants up to 80% of the cost to: purchase abandoned rail lines in an effort to continue freight service, or for the preservation of the opportunity for future rail service; rehabilitate facilities such as tracks or bridges, on publicly owned rail lines. Grants can cover 100% of the cost of acquiring land.

Freight Rail
Infrastructure
Improvement
Program

Provide up to 100% loans for projects that: connect an industry to the national rail system; make improvements to enhance transportation efficiency, safety and intermodal freight movement; accomplish line rehabilitation; develop the economy.

Loans are generally limited to no more than \$3 million. Total amount committed non-rail purposes (loading equipment, grain bins, warehousing) generally limited to \$1.5 million. Loans require a minimum of 2% interest per annum.

Pennsylvania

Program

Rail Freight
Assistance Program

Funding

\$11 million

Terms

Funds are available on a matching grant basis for maintenance, construction and combination projects, to restore, maintain, or improve an existing railroad line or to construct a new rail line or rail associated facility, which have an estimated useful life in excess of five years. Does not include acquisition costs of land, rights of land, buildings or building materials to construct a new building. Maximum state funding for any project is \$700,000 or no greater than 70% of the actual project cost, whichever is less. Funding for the construction portion of any project cannot exceed \$250,000.

Rail Transportation
Assistance Program

\$30 million

Matching grant basis with the state share not to exceed 70% of actual total eligible project costs.

Pennsylvania
Infrastructure Bank

Loan can be used for rail infrastructure construction and rail rehabilitation. No minimum or maximum loan amount. Maximum term is 10 years, shorter terms preferred. The interest rate is one-half the prime lending rate at the time of application.

Infrastructure
Development
Program

Grant and low interest loan financing for public and private infrastructure improvements. Maximum amount \$1.25 million, no more than 20% of the annual appropriation for a single municipality.

Grants for public infrastructure: Loans to private businesses at 3% interest, up to 15 year term, 2:1 private to public match. \$25,000 cost per job to be created within 5 years or 10 new full time jobs whichever is greater.

D. Program of Improvements

This report presents information on two broad categories of needs; Programmatic Needs, and Project Needs. Programmatic Needs are defined in this document as the recurring replacements of rail and ties, track surfacing, and drainage work required to continue reliable and safe operations of the line. Project Needs are defined as all other work outside of the programmatic needs. The Project needs would include bridges, grade crossings, switch work, and capacity and efficiency improvements.

Programmatic Needs

The criteria used to develop the Programmatic Needs were developed by reviewing the existing conditions on the shortline railroads and evaluating the work required to meet the following goals:

- ◆ In general all shortline railroads hauling freight will be improved to a sustainable FRA Class 2 track condition, and bridges to a “state of good repair.”
- ◆ Shortline railroads hosting Passenger service will be improved to a sustainable Class 3 for Passenger for passenger segments, and bridges to a “state of good repair.”
- ◆ Shortline railroads with existing or potential 286,000 pound cars will be improved to a minimum rail size of 112 pound section, and bridges rated for 286,000 pound axle loading at the timetable speed of the track segment.

Table 2 presents the FRA Track Safety Criteria contained in the Code of Federal Regulations (CFR) Title 49 Section 213. These criteria form the metrics that are the basis of FRA’s safety enforcement. In order to meet the first goal of the project in providing a FRA Class 2 Track Safety Standard, the following items need to be addressed:

1. Tie condition; it was assumed that the average life of a tie is approximately 30 years for the State of Virginia. Specific field locations and environmental conditions may lead to significant variation in tie life. From field observations, most lines are operating at minimum Class 2 safety conditions, in order to preserve or to reach a sustainable condition, the short lines will need to install about 244 safety ties per mile every six years. Those segments operating above Class 2 safety conditions will require about 398 safety ties per mile every six years to reach Class 3 safety conditions. .
2. Ballast and surface condition, most lines have fouled ballast conditions and can use new ballast and surfacing in order to meet the above requirements.

3. Jointed Rail, from field observation lines with jointed rail are showing signs of loose joints with evidence of rail end batter and bent rails at the joints. Lines that carry 286,000 pound railcars need to tighten the joints yearly or weld the joints.
4. Bridges need to be inspected and load rated to see if they meet the new loads from the 286,000 pound cars.
5. Culverts and drainage ditches are continuous maintenance needs in order to protect the investments made to improve tie and ballast conditions.

Project Needs

The development of the Project Needs was performed by the shortline railroads themselves. The railroads submitted their projects as part of the Rail Preservation Program funding applications and through discussions held with the shortline railroads during the preparation of this report.

Table 2 - FRA Track Safety Standards

Section	Description	1	2	3	4	5	6
213.9	Max. allowable freight speed (mph)	10	25	40	60	80	110
213.9	Max. allowable passenger speed (mph)	15	30	60	80	90	110
213.53	Min. allowable gage	56"	56"	56"	56"	56"	56"
213.53	Max. allowable gage	58"	57 3/4"	57 3/4"	57 1/2"	57 1/2"	57 1/4"
213.55	Alignment: Tangent – Max. deviation of mid-offset from 62' line	5"	3"	1 3/4"	1 1/2"	3/4"	1/2"
213.55	Alignment: Curves – Max. deviation of mid-ordinate from 62' chord.	5"	3"	1 3/4"	1 1/2"	5/8"	3/8"
213.63	The runoff in any 31' of rail at the end of a raise may not be more than...	3 1/2"	3"	2"	1 1/2"	1"	1/2"
	The deviation from uniform profile on either rail at the mid-ordinate of a 62' chord may not be more than...	3"	2 3/4"	2 1/4"	2"	1 1/4"	1/2"
	Deviation from designated elevation on spirals may not be more than...	1 3/4"	1 1/2"	1 1/4"	1"	3/4"	1/2"
	Variation in x-level on spirals in any 31' may not be more than...	2"	1 3/4"	1 1/4"	1"	3/4"	1/2"
	Deviation from zero x-level at any point on tangent or from designated elevation on curves between spirals may not be more than...	3"	2"	1 3/4"	1 1/4"	1"	1/2"
	The difference in x-level between any 2 points less than 62' apart on tangents and curves between spirals may not be more than...	3"	2"	1 3/4"	1 1/4"	1"	5/8"
213.109	Min. number of non-defective ties , (effectively distributed) in 39' track segment.	5	8	8	12	12	14
213.109	Max. distance to centerline of non-defective tie from rail joint location.	24"	24"	18"	18"	18"	18"
213.115	Rail end mismatch-tread – may not exceed...	1/4"	1/4"	3/16"	1/8"	1/8"	1/8"
213.115	Rail end mismatch-gage – may not exceed...	1/4"	3/16"	3/16"	1/8"	1/8"	1/8"
213.121d	Min. required number of bolts per rail, per joint for conventional jointed track	1	2	2	2	2	2
213.121e	Min. required number of bolts per rail, per joint for CWR .	2	2	2	2	2	2
213.143	Guard check gage may not be less than...	54 1/8"	54 1/4"	54 3/8"	54 3/8"	54 1/2"	54 1/2"
213.143	Guard face gage may not be less than...	54 1/8"	54 1/4"	54 3/8"	54 3/8"	54 1/2"	54 1/2"

E. Shortline Railroad Program Funding Needs

The cooperation of the various shortline owner/operators in providing background data for the development of the Statewide Rail Plan is appreciated. DRPT's evaluation of the existing condition and needs of the shortlines was performed with the assistance of DRPT's consultants, and was based on interviews and site visits with the shortline operators as part of the rail plan development. The evaluation was a general overview conducted for cost estimation purposes and not a detailed inspection of all shortline facilities. Project specific needs, such as major bridge upgrades or replacements, were provided by the shortline railroads, and are incorporated on a case-by-case basis.

Shortline Railroad Programmatic Needs

The Programmatic Needs are based on a life cycle approach to preserving the rail line and continuing and improving operations. Components are replaced on a regular schedule to gain the greatest life of the component while maintaining consistent reliability and safety conditions on the line. The useful life cycle of the wooden crossties was considered as the base component life and was set at 30 years. The work cycle was set to match the Department's six year funding cycle. As a result one fifth of the 30 year work cycle would be accomplished every six years. This establishes a consistent level of public funds and matching private funds that meets the programmatic goals of the program.

Estimates of the programmatic work were based on field reviews of the overall condition and the length of the shortline railroads, or estimates provided by the shortlines themselves. The work items were established to address meeting the FRA Safety Requirements, to protect Virginia's investment, and to preserving the rail line and continuing and improving operations.

The tie replacement requirements are based on the FRA Safety Standards and provide only for replacing the minimum number of ties required to meet the Safety Class of track. The rail work item was provided to meet the requirements of today's cars and to accommodate future cars. The joint tightening work item is included to preserve the existing rail until it can be replaced under the program as well as to maintain the track surface to meet FRA Safety Standards. The ballast and surfacing items are



Tie Change-out Production Machine

provided to meet the FRA Safety Standards, and to protect the investment made in ties and rail.

Although drainage work is last in this discussion, it is one of the most important work items needed to preserve and sustain the lines and to protect Virginia's investment. Poor drainage causes degradation in track surface and can cause premature tie failure. By funding drainage work, the Department protects its investment in the track surface, rail, and ties, and helps to sustain the line at conditions compliant with the FRA Safety Standards.



Tie Replacement, Ballast, Surfacing and Ditch Work on Shortline

The summary of the Programmatic Needs costs for both each six year cycle and the overall program cycle of 30 years shown in Table 3.

Table 3 - Shortline Rail Programmatic Needs

	One 6 Year Cycle	Program Cost 30 yr
Bay Coast Railroad	\$4,357,967	\$21,789,833
Buckingham Branch Railroad	\$20,571,867	\$102,859,333
Chesapeake & Albemarle Railroad	\$5,105,047	\$25,525,233
Chesapeake Western Railroad	\$3,295,983	\$16,479,917
Commonwealth Railway, Inc.	\$996,107	\$4,980,533
Deepwater Terminal Railroad	\$280,155	\$1,400,775
Norfolk & Portsmouth Belt Line	\$2,241,240	\$11,206,200
North Carolina & Virginia Railroad	\$1,743,187	\$8,715,933
Shenandoah Valley Railroad	\$1,245,133	\$6,225,667
Winchester & Western Railroad Co.	\$3,569,940	\$17,849,700
Total	\$41,850,208	\$209,251,042

Shortline Railroad Project Needs

The Project Needs identified in this report were provided by the shortline railroads themselves. The derivation of the cost numbers varies by each shortline railroad and may be constrained by the shortline's capital program. The railroads submitted their projects as part of the Rail Preservation Program funding applications and through discussions held during the preparation of this report. The railroads were the primary source for the estimated funding requirements for these projects, however some costs have been estimated by for this report by the Department.

The Project Needs are likely understated for the planning 2030 horizon. The Department expects there to be a continued need for project work to address safety and efficiency needs, specifically in the area of passing tracks and bridges.

The summary of the Programmatic Needs costs for the next six year plan is shown in Table 4.

The effects of the Federal Railroad Administration's new emphasis on railroad bridge inspections has not been fully realized and will likely result in a greater number of bridge projects being brought forward for funding.



Shortline Siding Conditions BEFORE
Project Work



Shortline Siding Conditions AFTER
Project Work

Table 4 - Shortline Rail Project Needs Current Six year Cycle Estimates

	Project Costs
Bay Coast Railroad	\$224,000
Buckingham Branch Railroad	\$44,363,000
Chesapeake & Albemarle Railroad	\$1,300,000
Chesapeake Western Railroad	\$0
Commonwealth Railway, Inc.	\$1,875,000
Deepwater Terminal Railroad	\$4,652,536
Norfolk & Portsmouth Belt Line	\$6,444,000
North Carolina & Virginia Railroad	\$0
Shenandoah Valley Railroad	\$1,060,100
Winchester & Western Railroad Co.	\$0
Total	\$59,918,636

Total Shortline Railroad Funding Needs

The Programmatic needs over the next 30 years, and the currently identified Project Needs total over \$209 million dollars. For the 2030 planning horizon, the level of Project needs can be expected to continue as the existing infrastructure ages and new problems are discovered. The Department expects an additional Project need of \$250 million bringing the Total Shortline need for the 2030 planning horizon to \$460 million dollars

Detailed Needs Description by Railroad

Bay Coast Railroad (BCR) – Total Funding Need \$4,581,967:

◆ Program Needs

Tie Replacement (Safety Ties) Class 2	17,080	\$1,451,800
Tie Replacement (Safety Ties) Class 4	0	\$0
Ballast	35,000	\$525,000
Surface Track	70.0	\$700,000
Rail Replacement	4.7	\$1,236,667
Joint bolt tighten	35.0	\$94,500
Drainage/ditching	35.0	\$350,000
		\$4,357,967

◆ Project Needs

Total Project Needs \$224,000

6. Cape Charles Division switching timber project. This project includes switching 23 sets of timbers. Estimated costs \$184,000.
7. Little Creek Division switching timber project. This project includes switching 5 sets of timbers. Estimated costs \$40,000.

Buckingham Branch Railroad (BB) – Total Funding Need **\$64,932,867:**

◆ Program Needs

Tie Replacement (Safety Ties) Class 2	20,740	\$1,760,900
Tie Replacement (Safety Ties) Class 4	78,660	\$6,686,100
Ballast	146,000	\$2,190,000
Surface Track	292.0	\$2,920,000
Rail Replacement	19.5	\$5,158,667
Joint bolt tighten	146.0	\$394,200
Drainage/ditching	146.0	\$1,460,000
		\$20,569,867

◆ Project Needs

Total Project Needs \$44,363,000

1. Washington and North Mountain Subdivision out of face tie replacement project. This six year (5five years remaining) project to replace 116,000 ties from CA160 to CA276. This project also includes ballast, surfacing, drainage, and tie disposal. Estimated cost to complete \$8, 800,000.
2. Orange Branch upgrade project. This three year project upgrades the 9.1 mile section of track from Orange to Gordonsville. This project will bring the track back up to Class III. Work includes installation and disposal of approximately 9,000 ties, surfacing, upgrading three public crossing surfaces, upgrading the deck of one bridge, and upgrades two grade crossing protection systems. Estimated costs \$1,300,000.
3. Signal System upgrade / replacement project. This remaining six year project replaces the signal system from Orange to Clifton Forge (approximately 125 miles). Estimated cost to complete \$12,800,000.
4. Washington and North Mountain Subdivision in-track welding project. This is a six year project to crop and weld in place all remaining jointed rail on this section. A cut and slide method will be used to eliminate the joints in approximately 46.3 track miles (92.6 rail miles). Estimated costs \$7,963,000.
5. Piedmont Subdivision in-track welding project. This six year project to crop and weld in place all jointed rail on this section. A cut and slide method will be used to eliminate the joints in approximately 48 track miles (96 rail miles). Estimated costs \$8,400,000.

6. Virginia Southern Division One year project to make emergency structural repairs at various locations. Estimated costs \$30,000.
7. Virginia Southern Division Two year project to replace 16,000 ties out of face annually. Estimated costs \$1,960,000.
8. Virginia Southern Division Three year project to replace 39,072 LF of rail out of face annually. Estimated costs \$5,210,000.

Chesapeake and Albemarle Railroad (CA) – Total Funding Need \$5, 105,047:

◆ Program Needs

Tie Replacement (Safety Ties) Class 2	20,008	\$1,700,680
Tie Replacement (Safety Ties) Class 4	0	\$0
Ballast	41,000	\$615,000
Surface Track	82.0	\$820,000
Rail Replacement	5.5	\$1,448,667
Joint bolt tighten	41.0	\$110,700
Drainage/ditching	41.0	\$410,000
		\$5,105,047

◆ Project Needs

Total Project Needs \$0

1. This short line did not submit specific request for project funding.

Chesapeake Western Railroad (CHW) – Total Funding Need \$4, 595,983:

◆ Program Needs

Tie Replacement (Safety Ties) Class 2	3,660	\$311,100
Tie Replacement (Safety Ties) Class 4	12,160	\$1,033,600
Ballast	23,500	\$352,500
Surface Track	47.0	\$470,000
Rail Replacement	3.1	\$830,333
Joint bolt tighten	23.5	\$63,450
Drainage/ditching	23.5	\$235,000
		\$3,295,983

◆ Project Needs

Total Project Needs \$1,300,000

1. 286K Bridge rating improvement program to increase capacity of 5 bridges.
Estimated costs \$1,300,000.

Commonwealth Railway, Inc. (CWRy) – Total Funding Need \$2,871,107:

◆ Program Needs

Tie Replacement (Safety Ties) Class 2	3,904	\$331,840
Tie Replacement (Safety Ties) Class 4	0	\$0
Ballast	8,000	\$120,000
Surface Track	16.0	\$160,000
Rail Replacement	1.1	\$282,667
Joint bolt tighten	8.0	\$21,600
Drainage/ditching	8.0	\$80,000
		\$996,107

◆ Project Needs

Total Project Needs \$1,875,000

1. Rehabilitative improvements to bridges at MP 8.3, 8.7, 9.9, 13.6, 14.6, 14.9, 15.3, 16.0, 16.3 and 16.4. Estimated costs \$235,000.
2. APM Terminal additional temporary connection tracks including; grading (2,700 TF), #10 turnouts (2 each), diamond (1 each) and new track (2,700 TF). Estimated costs \$705,000.
3. Repair QVC Crossing. Estimated costs \$25,000
4. Relocation of 10 Automatic Signal Crossing Systems. Estimated costs \$700,000
5. Repair Suburban and Bromay Road Crossings. Estimated costs \$100,000
6. Repair Nansemond Road Crossing Estimated costs \$50,000
7. Repair Wilroy Road Crossing Estimated costs \$25,000
8. Repair Sportsman Blvd Crossing Estimated costs \$25,000

Deepwater Terminal Railroad (DWT) – Total Funding Need **\$4,902,691:**

◆ Program Needs

Tie Replacement (Safety Ties) Class 2	1,098	\$93,330
Tie Replacement (Safety Ties) Class 4	0	\$0
Ballast	2,250	\$33,750
Surface Track	4.5	\$45,000
Rail Replacement	0.3	\$79,500
Joint bolt tighten	2.3	\$6,075
Drainage/ditching	2.3	\$22,500
		\$280,155

◆ Project Needs

Total Project Needs \$4,652,536

1. Construction of a new track to connect to the existing Norfolk Southern siding at the Richmond Sewage Facility. This project will provide competitive rail access to the port and existing distribution centers on the lead to the port. The estimated cost is \$4,652,536.

Norfolk and Portsmouth Belt Line (NPBL) – Total Funding Need **\$8,685,240:**

◆ Program Needs

Tie Replacement (Safety Ties) Class 2	8,784	\$746,640
Tie Replacement (Safety Ties) Class 4	0	\$0
Ballast	18,000	\$270,000
Surface Track	36.0	\$360,000
Rail Replacement	2.4	\$636,000
Joint bolt tighten	18.0	\$48,600
Drainage/ditching	18.0	\$180,000
		\$2,241,240

◆ Project Needs

Total Project Needs \$6,444,000

1. So. Branch Bridge No.1 S/E piles Estimated costs **\$220,000**
2. Drainage work S/E Berkley yard Estimated costs **\$115,000**
3. Embankment Stabilization So. Br. M/L Estimated costs **\$125,000**
4. Main Line Bridge East Fender Estimated costs **\$575,000**
5. Replace (48) counterweight cables on Main Line Bridge (center lift span) over Southern Branch Elizabeth River. Estimated costs \$1,700,000
6. Rehabilitate electrical system and remote controls on Main Line Bridge
Estimate Costs \$120,000
7. Installation 12,800 linear feet of 132 pound Continuous Welded Rail (CWR) in Berkley yard tracks 13, 14 and 15 replacing jointed rail consisting of 85 lb to 100 lb rail Estimated costs \$350,000.
8. Installation 7,120 linear feet of 132 pound Continuous Welded Rail (CWR) in Berkley yard tracks 6, 10 and 11 replacing jointed rail consisting of 85 lb to 100 lb rail and rehabilitate 3 #8 Turnouts Estimated costs \$550,000.
9. Installation of 3,200 liner feet of 132 pound Continuous Welded Rail (CWR) on the main switching lead between Liberty Street and the New York Switch replacing jointed rail. Estimated costs \$150,000.
10. Continuous renewal of Berkley yard switches by upgrading five switches at the office end of Berkley yard. The project consists of replacing the #2, #3, #4, and upper #3, upper main-line, switches on Berkley yard. Estimated costs \$200,000.

11. Rehabilitate 9 #8 Turnouts at the north end of Berkley Yard and Installation 6,100 linear feet of 132 pound Continuous Welded Rail (CWR) in Berkley yard tracks 16, 17 and 18 replacing jointed rail consisting of 85 lb to 100 lb rail Estimated costs \$795,000.
12. Rehabilitate 10 #8 Turnouts at both ends of the VGN Yard and Installation 4,800 linear feet of 132 pound Continuous Welded Rail (CWR) Estimated costs \$852,000.
13. Rehabilitate 8 #8 Turnouts at Barnes Yard and Buells Siding and Installation 4,600 linear feet of 132 pound Continuous Welded Rail (CWR) Estimated costs \$597,000.
14. Rehabilitation of the crossing surface and track structure at Liberty Street crossing. Estimated costs \$45,000.

North Carolina and Virginia Railroad (NCVA) – Total Funding Need \$1,743,187:

◆ Program Needs

Tie Replacement (Safety Ties) Class 2	6,832	\$580,720
Tie Replacement (Safety Ties) Class 4	0	\$0
Ballast	14,000	\$210,000
Surface Track	28.0	\$280,000
Rail Replacement	1.9	\$494,667
Joint bolt tighten	14.0	\$37,800
Drainage/ditching	14.0	\$140,000
		\$1,743,187

◆ Project Needs

Total Project Needs \$0

1. This short line did not submit specific request for project funding.

Shenandoah Valley Railroad (SV) – Total Funding Need \$2,305,233.

◆ Program Needs

Tie Replacement (Safety Ties) Class 2	4,880	\$414,800
Tie Replacement (Safety Ties) Class 4	0	\$0
Ballast	10,000	\$150,000
Surface Track	20.0	\$200,000
Rail Replacement	1.3	\$353,333
Joint bolt tighten	10.0	\$27,000
Drainage/ditching	10.0	\$100,000
		\$1,245,133

◆ Project Needs

Total Project Needs \$1,060,100

1. Place 1,000 tons of rip-rap annually at select locations in order to reinforce railroad fills that are experiencing erosion problems. Estimated costs \$300,000.
2. Thermite weld approximately 36 joints on continuous weld rail main track. Estimated costs \$12,600.

3. Construct a runaround / storage siding at Verona. Siding length would be approximately 750 ft. between clearance points. Required materials would be two 131-132 lb. switches, including necessary switch ties, approximately 1,750 ft. of jointed rail, approximately 400 railroad tie, and miscellaneous materials such as tie plates. Spikes, etc. and materials for grade construction, including ballast and right of way clearing. The construction of the Verona siding will also require the installation of two railroad high way crossings at grade with passive warning devices. Estimated costs \$200,000.
4. Replace 25 bridge timber ties annually between 2010 and 2016. Estimated costs \$22,500.
5. Construct a runaround / storage siding at Staunton. Siding length would be approximately 950 ft. between clearance points. Required materials would be two 85 lb. switches, including necessary switch ties, approximately 1,150 ft. of jointed 85 lb rail, approximately 500 railroad tie, and miscellaneous materials such as tie plates. Spikes, etc. and materials for grade construction, including ballast and right of way clearing. The construction of the Staunton siding will also require the installation of two railroad high way crossings at grade with passive warning devices. Estimated costs \$225,000.
6. Brush cut the entire line between 2010 and 2016. Estimated costs \$300,000.

Winchester and Western Railroad Co. (WW) – Total Funding Need \$3, 569,940:

◆ Program Needs

Tie Replacement (Safety Ties) Class 2	8,784	\$746,640
Tie Replacement (Safety Ties) Class 4	6,840	\$581,400
Ballast	27,000	\$405,000
Surface Track	54.0	\$540,000
Rail Replacement	3.6	\$954,000
Joint bolt tighten	27.0	\$72,900
Drainage/ditching	27.0	\$270,000
		\$3,569,940

◆ Project Needs

Total Project Needs \$0

1. This short line did not submit specific request for project funding. The project requested has been converted to a Programmatic Need.

F. Public Funding Sources

Overview

DRPT administers approximately \$300 million annually in financial support for capital, and operating and maintenance costs of public transportation services across the Commonwealth. Federal and state aid is provided to supplement revenues collected from fares and local funds provided in support of public transportation operations such as the following:

- ◆ Financial support for projects that demonstrate new public transportation services or techniques in service delivery.
- ◆ Financial support for training for drivers, mechanics and professionals working for Virginia's public transportation systems.
- ◆ Financial support for the operations of Commuter Assistance Agencies and the delivery of services to businesses and the general public.
- ◆ Federal and state financial support for the procurement of vans and small buses used for the transport of elderly and disabled clients by private non-profit agencies.
- ◆ Financial assistance to business and industry to defray the costs of rail access and development on industrial sites and reduce truck traffic.
- ◆ Financial assistance to shortline railroads to defray the costs of capital infrastructure projects that assist in the preservation of rail service to areas of the Commonwealth that otherwise would not have this service.

DRPT's funding comes from transportation trust funds (89%) and federal funds (11%). The majority of the transportation trust funds (\$152.1 million) come from the Mass Transit Trust Fund which represents DRPT's 14.7% allocation of the 1986 Special Session Revenue (Transportation Trust Fund). Commonwealth of Virginia Transportation Capital Projects Revenue Bonds (Code of Virginia § 33.1-23.4:01) provide \$90 million to the Mass Transit Capital Fund in FY11 and \$8.6 million to the DRPT rail programs in FY11. An additional \$25.5 million represents the state portion of vehicle rental taxes collected in the Transportation Trust Fund that is used for the Rail Enhancement Fund, and \$32.9 million is funded through the Highway Construction Fund or Highway Maintenance and Operating Fund. The majority of the federal percentages are attributable to DRPT's Federal Transit Administration (FTA) 5310 and FTA 5311 programs.

Existing funding for rail development projects in the Commonwealth are provided through the Code of Virginia § 33.1-221.1:1.1 – which established the Rail Enhancement Fund; the Virginia Transportation Act of 2000 was created by HB 608 of the 2000 Acts of Assembly, which, among other General Assembly actions, established the Priority Transportation Fund in §33.1-23.03:8; Code of Virginia § 33.1-23.4:01 - allocation of proceeds of Commonwealth of Virginia Transportation; and Capital Projects Revenue Bonds discussed below.

The vast majority of annual funds are allocated to mass transit projects and operations (approximately 84 percent) with the remaining funds allocated to a variety of rail improvement projects. The typical annual expenses noted above do not include special appropriations that have been made by the Commonwealth for rail improvement projects.

The 2007 General Assembly session provided increases in funding for transit and rail in FY08 that will benefit all of DRPT's programs. HB3202 dedicated a minimum of 20% of bond proceeds to major transit capital projects statewide.

The bond package includes a minimum of 4.3% of available funds specifically for rail transportation. This equates to approximately \$4.3 million in FY08 and then \$12.9 million each year afterward to be administered through the Rail Enhancement Fund and the Rail Preservation Program for rail capital projects. In addition, the Appropriations Act included \$65 million to support rail initiatives in the I-95 and I-81 corridors.

Rail Preservation Fund

The Rail Preservation Fund (RPF) provides funding for the preservation and continuation of existing rail service to increase productivity, safety and efficiency of shortline railway transportation logistics in Virginia. Through projects funded by the Rail Preservation Program, a rail transportation alternative to businesses and industries in areas of the Commonwealth that otherwise would not have that opportunity if the program did not exist. This program has become a key component of the Commonwealth's initiative to attract and maintain business in Virginia.

Project funding is provided through the Code of Virginia § 33.1-221.1:1.2 - established the Shortline Railway Preservation and Development Fund; and the Code of Virginia §33.1-23.4:01 - Allocation of proceeds of Commonwealth of Virginia Transportation and Capital Projects Revenue Bonds. Not including special allocations, the rail preservation fund is allocated \$3 million annually for shortline rail improvement projects.

Business and industry in the Commonwealth will continue to expand or locate their services to meet the increasing demand for industrial and commercial development. The Rail Preservation Program assists in the continuation of rail services in remote areas that otherwise would probably not have rail services provided. For example, funding to the Commonwealth Railway shortline has continued rail service to the West Norfolk area of Portsmouth, resulted in providing rail services to the new APM Terminal, which was constructed on the Commonwealth Railway rail line. The APM container terminal development is the single largest private investment in Virginia history and, in part, chose Virginia for its dual (CSX & NS) rail access opportunities offered by a shortline railroad. As all Class I railroads work to maximize the assets of the company, more shortline railroads will be created and rail lines will be abandoned. The increased demand of the stockholders of the larger railroad companies will potentially lead to an increase of shortline spin offs and abandonment of existing rail lines.

Program Overview

The Commonwealth Transportation Board (CTB) considers railways and rail corridors as important elements of the Statewide Transportation System. The CTB supports the use of funds for projects deemed important elements of the Statewide Transportation System.

The Department of Rail and Public Transportation (DRPT) Director administers and expends or commits, subject to the approval of the CTB, funds set forth in the Appropriations Act for this purpose. However, no funds can be used for general railroad operating expenses. Costs incurred for the administration of approved projects are an eligible expense.

In allocating funds for improvement, the CTB considers the project cost in relation to the prospective use, line capacity, and the economic and public benefits. The CTB has adopted procedures for the allocation and distribution of the funds, including provisions for safeguarding the Commonwealth's interest in all projects.

DRPT develops projects for the consideration of the CTB or receive applications from others for projects. Each application must be accompanied by a resolution from the appropriate local government or Transportation District Commission supporting the proposed project.

Funds are provided in the form of grants or loans to acquire, lease, improve, or assist other appropriate entities to acquire, lease, or improve railways, related facilities, and equipment on public or private property, and to purchase railway properties for rail service and other transportation purposes.

The Commonwealth retains an interest in materials installed in tracks, and facilities reconstructed or improved with grant funds from the Commonwealth until the Commonwealth's interest is repaid or the useful life as determined by the Director has expired (usually set at 15 years).

The Commonwealth does not consider any rail with a weight of less than 112 lbs. / yd to be an acceptable size for use in the track structure. Rail Preservation monies will not be utilized to pay for (or pay to have installed) any rail less than the minimum accepted size.

DRPT's goal is to assist in bringing all Shortlines to a Class 2 Track Safety Standard operation for freight only operations, and to a Class 3 Track Safety Standard where passenger trains operate as prescribed in the Track Safety Standards publication as part of the Federal Railroad Administration's Title 49 Part 213 regulations. The achievement of this plan will depend on the availability of funding. Once reached, the track will be maintained at this level.

G. Policy Framework

DRPT has concluded that to accomplish its goal of bringing the Shortline Railroads up to the sustainable conditions it desires that it must develop both a Short Term and a Long Term Program

Shortline Railroads - Short Term Program

Within the 2009-2014 SYIP priorities will be placed on the following rail improvements:

- ◆ Improve shortline railroads to Class 2 standards for freight operations, and Class 3 standards for those that carry passenger trains. Priority will be given to passenger service shortlines, as well as shortlines connecting with the port system in Virginia that handle containerized cargo.
- ◆ Continue to work with the Virginia Economic Partnership and local economic development agencies to attract rail dependent businesses throughout Virginia – particularly in rural and economically depressed areas of the Commonwealth.

Shortline Railroads - Long Term Vision Program

Priorities will be placed on the following rail improvements projects for a Commonwealth Rail System by 2035:

- ◆ Complete rail improvements of all shortline railroads to Class 2 standards for freight operations, and Class 3 standards for those that carry passenger trains.
- ◆ Continue to work with the Virginia Economic Partnership and local economic development agencies to attract rail dependent businesses throughout Virginia – particularly in rural and economically depressed areas of the Commonwealth.

Rail Industrial Development Potential

The Commonwealth is interested in preserving the railroad lines in Virginia because they support other goals such as economic development. The potential for rail served industrial development in Virginia is strong. There are numerous locations that can potentially serve a wide range of industrial uses. The Virginia Economic Development Partnership (VEDP) supplies prospective business/developers the resources needed to discover an optimum site location to move in to or (re)develop. The VDEP website offers an interactive database with comprehensive search capabilities that is able to locate available industrial parks, sites, land, and buildings that are accessible by rail. As of the date of this report, there are 245 available rail served industrial properties listed by the VEDP. The VEDP provides a site selector search engine that includes rail service as a criteria at; http://virginiascan.yesvirginia.org/site_selection/PropertySearch.aspx .

Proposed Improvement Guidelines

Track structure improvements should be designed to handle 286,000 pound railcar axle loading utilizing AREMA design methodologies or a track structure analysis program. The Track 3.0 track structure analysis program developed by the Army Corps of Engineers will be acceptable. It generally follows the AREMA design methodologies. While the accuracy of this, and any model, can be debated, comparisons using the same model typically allow valid comparisons between cases. Track 3.0 allows comparisons of rail weight, car loading, ballast depth and subgrade to determine an appropriate design.

Rail and tie standards have caused some concerns with the shortline operators that are trying to stretch their maintenance dollars by using lower cost items for maintenance in the short term rather than using higher cost items that produce a long term benefit. The Goal of the DRPT to achieve a sustainable track structure will require the installation of seven (7) inch mainline quality ties and 112 pounds per yard or heavier weight rail. If the operator can provide data and analysis that supports a site specific a substitution provides the same long term benefit, the Commonwealth will consider the approval of the substitution.

Short Term Action Plan / Six Year Improvement Plan

Financially Constrained SYIP

A summary of the proposed short term action plan and six year improvement plan (SYIP) for shortline rail improvements based on a continuation of existing funding levels for the Rail Preservation Fund (RPF) program are summarized in Table 6. The current funding level is approximately \$3.2 million per year for the Rail Preservation Fund. Total project costs for shortline rail preservation projects for FY2009 to FY2014 equal approximately \$51.7 million, which represents \$35.5 million in Commonwealth RPF funds plus \$16.2 million in applicant matching funds (roughly a 70 / 30 percent split in funding sources). The total SYIP cost also includes approximately \$20.4 million from previous RPF FY08-13 allocations for on-going rail improvement projects.

Table 6 - RPF Six Year Improvement Plan (Constrained)

Proj. No.	Application Project Name	Applicant	2008 (\$1,000)	FY2009-2014 NEW PROJECTS (\$1,000)						% Match	Total RPF (\$1,000)	Applicant Match (1,000)	Total Project Cost (\$1,000)
				2009	2010	2011	2012	2013	2014				
1	Orange Branch Upgrade	BBRR	\$ -	-	\$ 910	\$ -	\$ -	\$ -	\$ -	70/30	\$ 910	\$ 390	\$ 1,300
2	Signal System Upgrade	BBRR	-	350	1,722	1,722	1,722	1,722	1,722	70/30	8,960	3,840	12,800
3	Wash. and N. Mt. In-Track Welding	BBRR	-	-	-	943	797	907	980	70/30	3,626	1,554	5,180
4	N. Mt. Rail Replacement	BBRR	-	123	116	116	116	-	-	70/30	470	201	671
5	Piedmont In-Track Welding	BBRR	-	-	-	980	980	980	980	70/30	3,920	1,680	5,600
6	Tie and Switch Timber Replacement	BCRR	-	130	-	-	-	-	-	60/40	130	87	217
7	Berkley Yard and Main Switches, Crossing	NPBL	-	245	-	-	-	-	-	70/30	245	105	350
8	Tie, Surfacing, Bridge Timbers, Crossings	SVRR	-	37	-	-	-	-	-	65/35	37	20	57
9	Tie / Rail Replacement, Surfacing, Crossing	W WRR	-	420	824	644	474	627	651	70/30	3,641	1,560	5,202
	Subtotal		\$ -	1,305	\$ 3,572	\$ 4,405	\$ 4,088	\$ 4,236	\$ 4,333	--	\$ 21,939	\$ 9,438	\$ 31,377

Proj. No.	4 Projects Carried Over From FY08-13 SYIP Application Project Name	Applicant	2008 (\$1,000)	FY08-13 Carried Forward Into FY09-14 SYIP (1,000)						% Match	Total RPF (\$1,000)	Applicant Match (1,000)	Total Project Cost (\$1,000)
				2009	2010	2011	2012	2013	2014				
A	Tie Replacement - 34,000	BBRR	\$ 385	\$ 385	\$ 385	\$ 385	\$ 385	\$ 385	\$ -	70/30	\$ 2,310	\$ 990	\$ 3,300
B	Tie Replacement - 116,000	BBRR	1,209	1,430	1,430	1,430	1,430	1,430	-	65/35	8,359	4,501	12,860
C	Rail Replacement	BBRR	455	455	420	420	420	420	-	70/30	2,590	1,110	3,700
D	Grade Crossing Improvements - Safety	CWRY	330	20	-	-	-	-	-	70/30	350	150	500
	Subtotal		\$ 2,379	\$ 2,290	\$ 2,235	\$ 2,235	\$ 2,235	\$ 2,235	\$ -	--	\$ 13,609	\$ 6,751	\$ 20,360

TOTAL FY09-14 Program (1,000)	2009	2010	2011	2012	2013	2014	--	RPF (1,000)	Local Match	Total Project Cost (1,000)
	\$ 3,595	\$ 5,807	\$ 6,640	\$ 6,323	\$ 6,471	\$ 4,333				

Long Term Vision / 2030 Plan

Required programmatic rail improvements for the shortlines to meet Class 2 rail standards equal approximately \$209,251,042 million (Table 3) to meet forecasted increases in freight and passenger services. This investment would be a key component to meeting the long term vision goals of the Department discussed in the Statewide Rail Plan. Some of the improvement needs might be the full responsibility of the shortline railroads, and only those projects that had public benefit that exceeded the public funding amount would be eligible for Commonwealth funding.

For planning purposes, the worst case scenario would be that all of the estimated improvement needs were eligible for Rail Preservation Funding and met the benefit cost requirements of the assistance program. Assuming that the railroads were able to fund 30% of the project costs (\$62.7 million), the remaining 70% (\$146.5 million) would require public funds. At the current RPF funding level of approximately \$3.2 million available per year, it would take approximately 46 years to complete the necessary programmatic improvements (assuming that RFP funding would be increased in accordance with cost increases in the rail industry in future years).

H. APPENDICES

Appendix 1 – Track Structure Analysis